

Benefits and properties of scratchClient

- Makes the connection between Scratch and
 - External hardware connected to the Raspberry Pi GPIO I/O pins
 - External hardware connected to the GPIO pins of an Arduino Uno or Nano
 - Arduino is connected to Raspberry Pi via USB
 - Other software services, like SonicPi or sending messages via Twitter
- Children can control the external hardware by using comprehensible names.
 - So e.g. BigRedLED rather than GPIOpin5

Benefits of using an Arduino for connecting external hardware

- Arduino has
 - analog in
 - a hardware pulsewidth modulation (PWM) for more stable servo control.
- Arduino uses 5 volt. Raspberry Pi GPIO pins are not 5 volt tolerant.
- If children mess up with electronics, they potentially blow up an Arduino of 2 euro rather than a Raspberry Pi of 35 euro.
- Keeping the setup transportable, now only one USB plug has to be connected, rather than otherwise a large pin header.